

Software Defined Networking- Presenter


vmware®



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A night landscape featuring a starry sky with the Milky Way galaxy visible. The sky is reflected in a calm body of water in the foreground. On the right side, a church with a steeple is visible, also reflected in the water. The overall scene is serene and quiet.

IT is changing.

A detailed illustration of the Space Shuttle Columbia in flight, viewed from a low angle. The orbiter is white with black markings, and the external tank is orange. The shuttle is ascending, with a large plume of fire and white smoke trailing behind it. The background shows a blue sky with scattered white clouds and a view of the Earth's surface below, including a city and green fields.

Cloud isn't the only path.



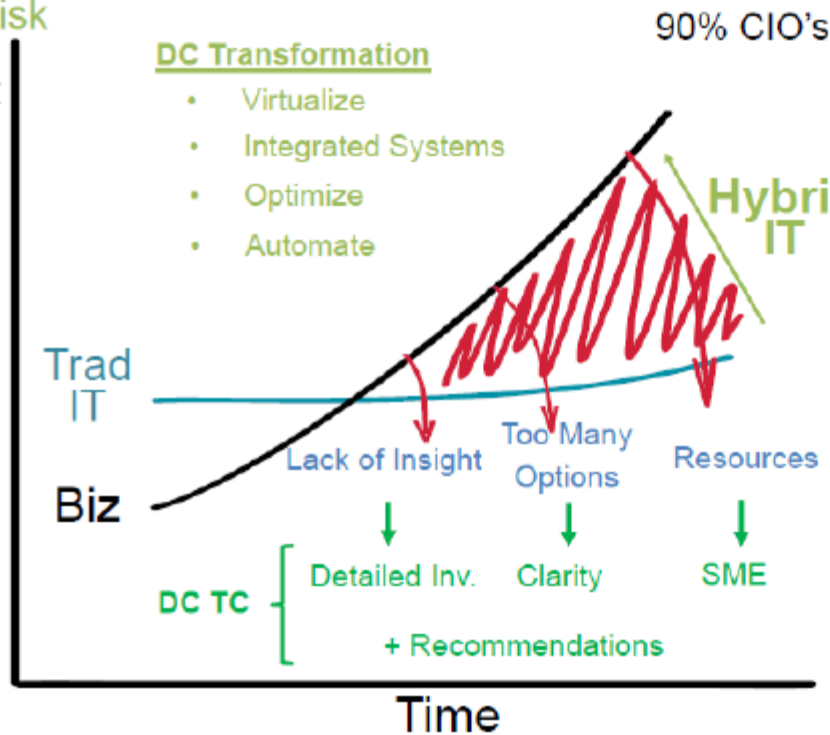
Welcome to Hybrid IT.

Softchoice: Industry POV

+ Cust Exp
Manage Risk

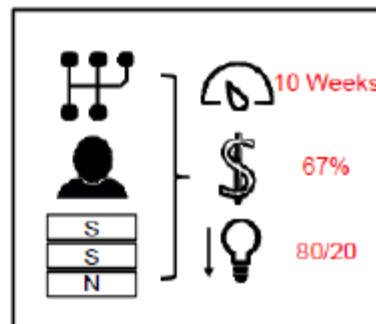
Biz Impact

Adoption



Hybrid IT

1. Public Cloud Adoption
2. DC Transformation
3. Network Readiness



SERVERS
SOFTWARE OPERATING WEB
SERVER

COMPUTER
NETWORK SERVICES
CLIENT HARDWARE

PUBLIC CLOUD
PRIVATE CLOUDS
SERVICE ONLINE SECURITY CLIENTS MARKET BASED NEED COMPUTING AVAILABLE SERVICES
RESOURCES MODEL INFRASTRUCTURE ACCESS
CLIENT DATA STORAGE OFFERED MAKE NETWORK INTERNET

NETWORK
AREA
USED
LAN
CABLING
ETHERNET
PROTOCOL
OPERATING
COMPUTERS
TECHNOLOGIES
EARLY ALSO LAYER SYSTEM
GENERAL PHYSICAL PAIR TWISTED
CONNECTIONS SMALLER PARC
CARD COMMERCIAL SERVERS METROPOLITAN
USING MANY COMPETITORS SUCCESSFUL
DOZENS ARCADE
VISA
DEVELOPMENT NEVER
SIMPLE SMALL
LANBIDGE
CONCEPT
NETWORKS
ASPECTS
OPERATING
TECHNICAL
RING
COMPUTERS
BANYAN
ETHERNET
YEAR
LARGED
OPERATING
ASPECTS
COMPUTERS
BANYAN
ETHERNET
RING
COMPUTERS
BANYAN
ETHERNET
RING
COMPUTERS
BANYAN

```
COM3 - PuTTY
username shawn privilege 15 password 7 13171E0218040D3E7A
ip subnet-zero

no ip domain-lookup
ip dhcp excluded-address 192.168.5.1 192.168.5.99

ip dhcp pool DHCP5
 network 192.168.5.0 255.255.255.0
 dns-server 8.8.8.8 8.8.4.4
 default-router 192.168.5.1

interface FastEthernet0/0
 ip address dhcp
 ip access-group WAN in
 ip nat outside
 duplex auto
 speed auto
 no cdp enable

interface Serial0/0
 no ip address
 shutdown
 no fair-queue

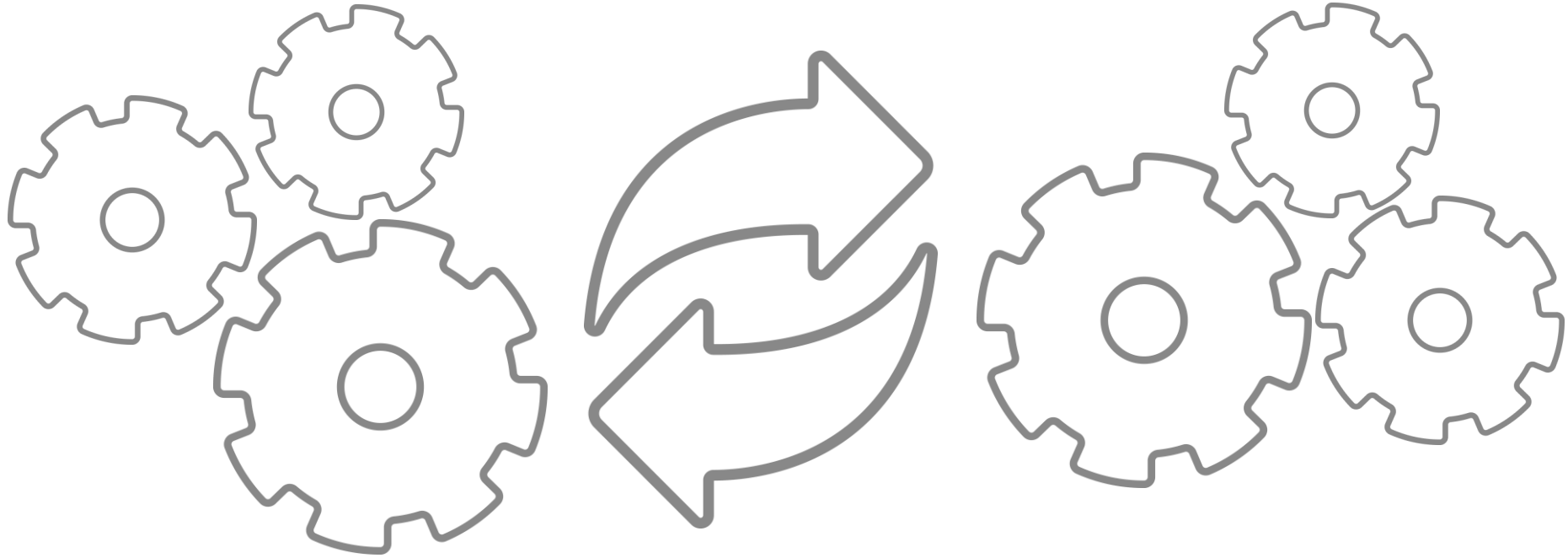
interface FastEthernet0/1
 ip address 192.168.5.1 255.255.255.0
 ip nat inside
 duplex auto
 speed auto

!
--More--
```

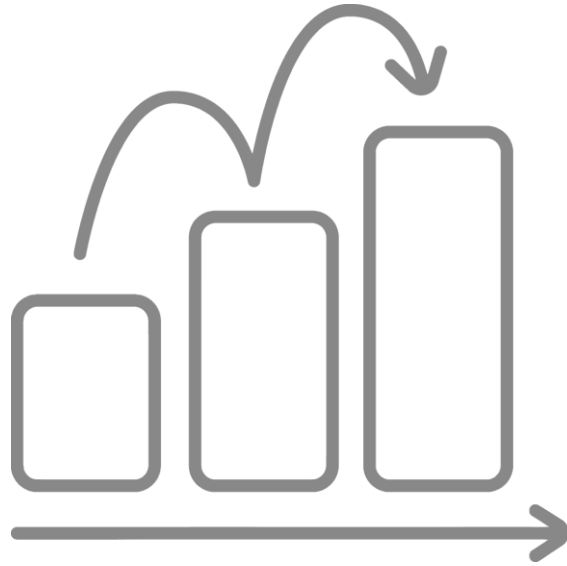




1. Scalability



2. Complexity



3. Agility



4. Security

How to get fired in 2017: Have a security breach

There are many reasons why IT pros can be fired, but a majority of them are related to security



Maria Korolov (CSO (US))
19 January, 2017 02:00



Com

There are many reasons why IT professionals can be fired, but six out of the top nine are related to security, said a [survey released this morning](#).

For example, having a tech investment that leads to a security breach was considered a fireable offense by 39 percent of organizations, according to Osterman Research, which conducted the survey.

A data breach that becomes public was a fireable offense for 38 percent of companies.

Other fireable offenses included failing to modernize a security program, data breaches with unknown causes, data breaches that do not become public, and the failure of a security product or program investment.

Failing to meet regulatory compliance and getting a large fine or penalty, was the top offense, with 68 percent of organizations considering it reason for dismissal.

CTO 100

View the 2017 CIO100 list
of NZ's Innovative IT Leaders

Editor's Recommendation



Avi Golan: How Air NZ unleashes digital transformation



Networking dangers: Beware of criminals... and colleagues!

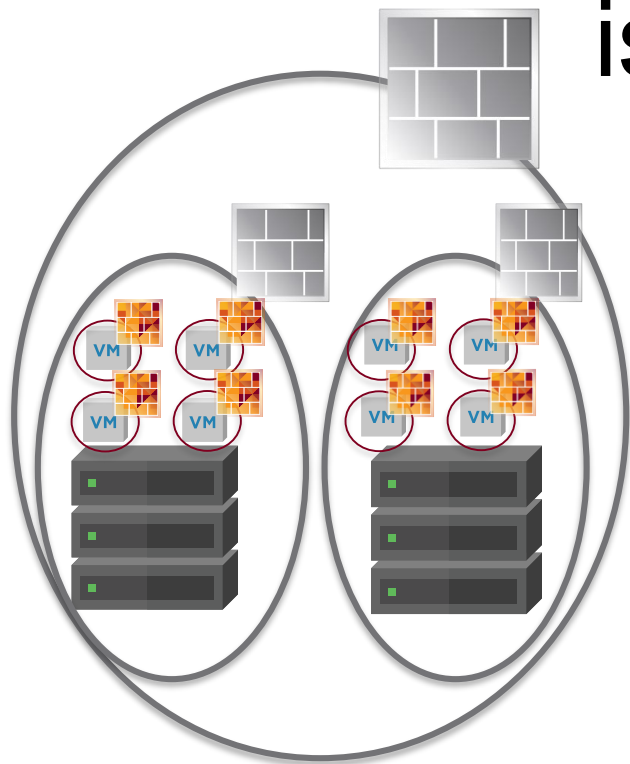


Continuous upskilling amidst rap

We Need To Bridge The Gap



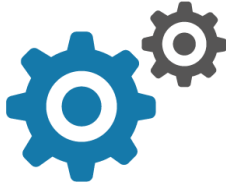
Zero-Trust and Micro-segmentation is Required!



- Institute a **Zero-Trust** model with **micro-segmentation** – a firewall for every single VM
- Limit access based on **identity authentication**
- Provide further security checks – antivirus, intrusion prevention, data loss prevention – with **third party service insertions**

A satellite is shown in space, oriented vertically. It features a central antenna structure with four circular elements at the top. Large solar panels are extended horizontally from the central body. The background is a dark, starry space with a blueish glow. The text "The future of networking is in software." is overlaid in white, centered on the image.

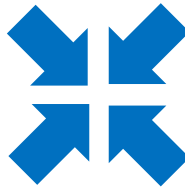
The future of networking is in software.



Automation



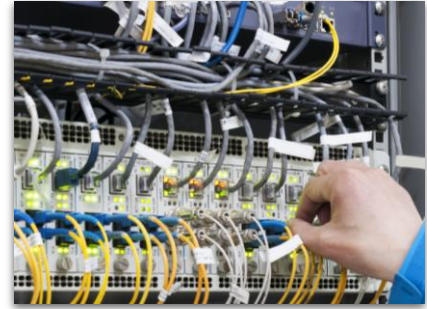
Network Virtualization



Centralized
Management and Control



is to



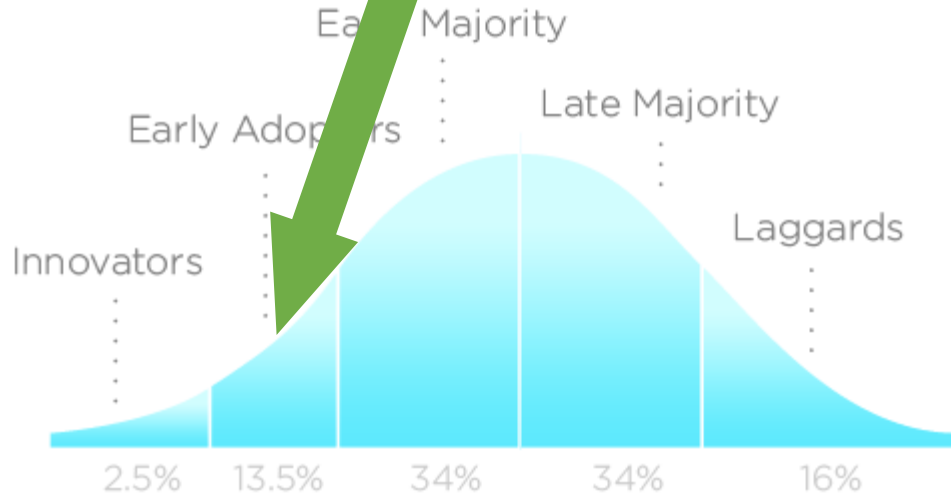
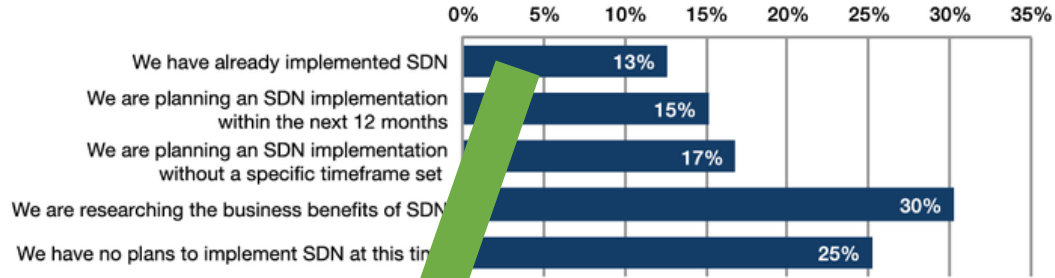
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is to



COMPANY PLANS FOR DEPLOYING SDN



INNOVATION ADOPTION LIFECYCLE



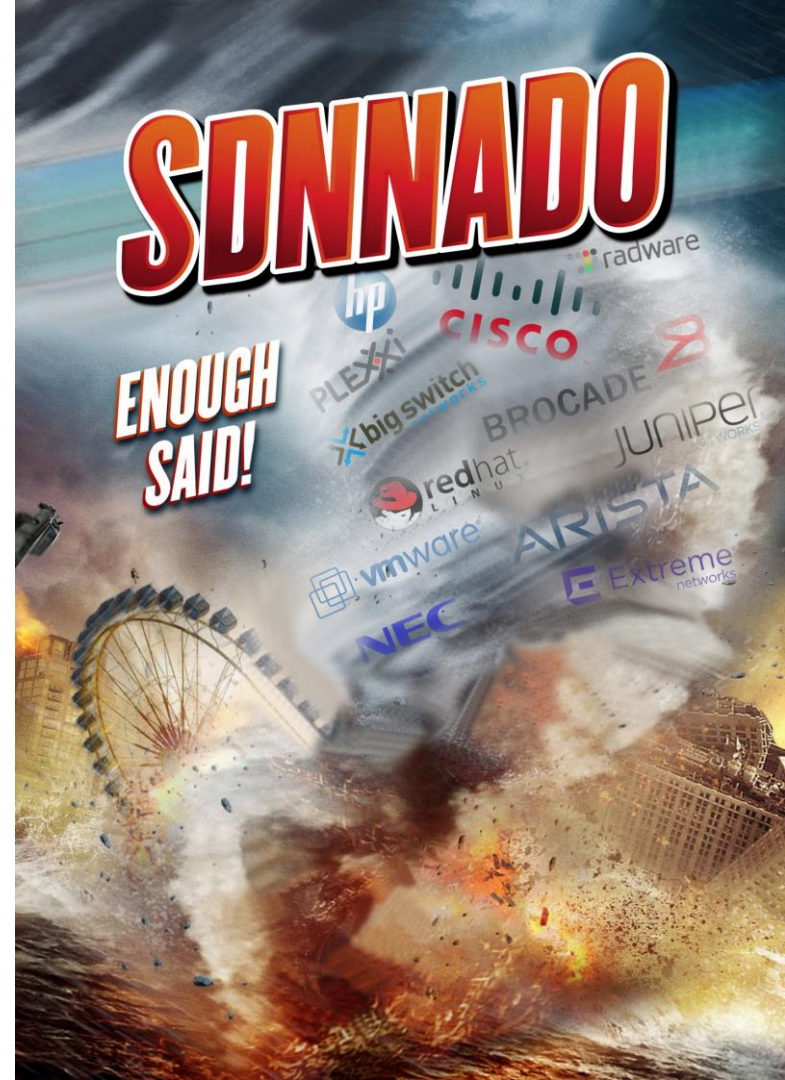
physical network infra.
virtualization/control software
SDN applications
professional services



SDN Market



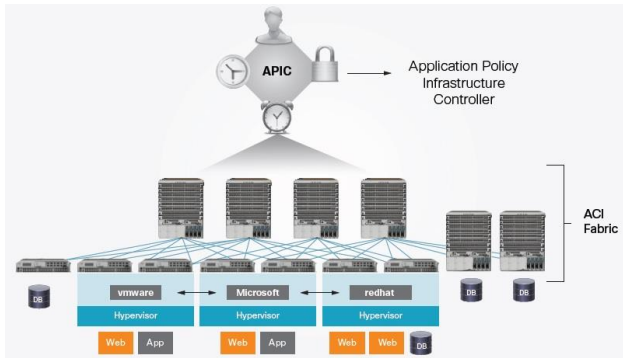
\$12.5 billion in 2020



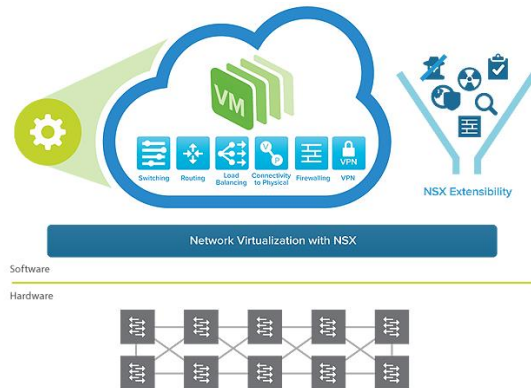
Who are the leaders in the Data Center Networking market?



Leading SDN Solutions...



VS



Architecture

ACI

NSX

Management Plane



Application Policy Infrastructure Controller (APIC)



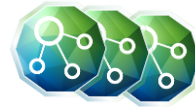
NSX Manager

Control Plane

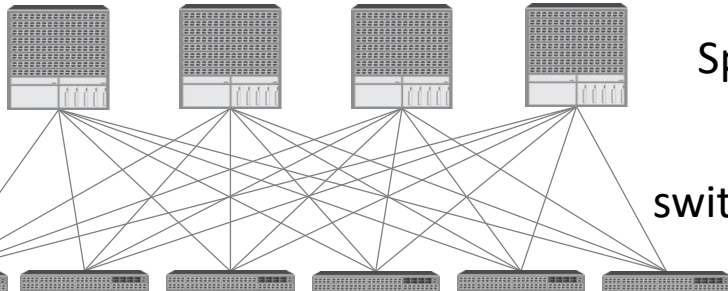
Independent Control Planes per Switch



NSX Controller



Data Plane



Spines
Leaf switches

Distributed Services



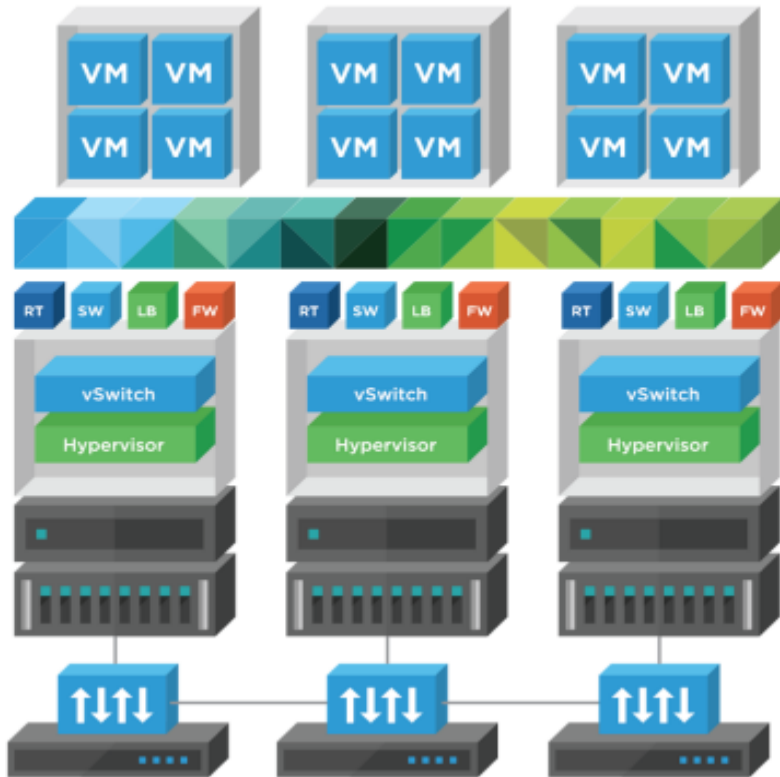
ESXi

Hypervisor Kernel Modules

NSX Edge



Software Overlay- NSX



Distributed Stateful Firewalling

Distributed stateful firewalling, embedded in the hypervisor kernel for up to 20 Gbps of firewall capacity per hypervisor host.

Dynamic Security Policy

Security policy that is attached directly to the workload and "travels" with the workload, independent of the underlying network topology, enabling security to adapt to changes.

Cloud Management

Native integration with VMware vRealize® Automation™ and OpenStack, enabling advanced automation capabilities.

3rd Party Integration

Enhanced security and advanced networking services through an ecosystem of leading third-party vendors.

Learning Curve

ACI



dCloud
Courses
Cisco Press Books



NSX

Hands On Labs ICM Courses VMware Press

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SDN Pitfalls and How to Avoid Them

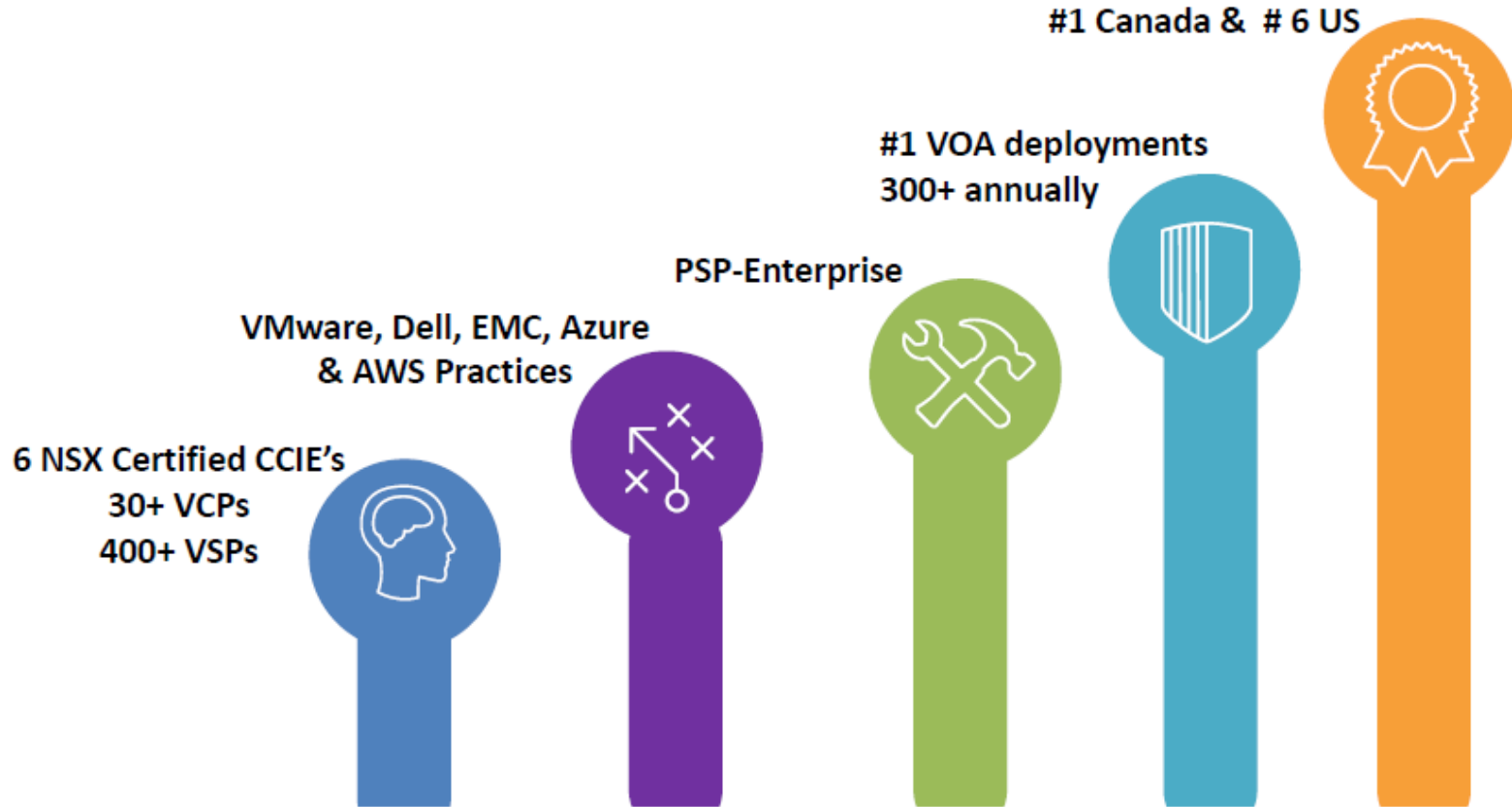
1. Application traffic flows
2. Process workflow
3. Responsibility silos
4. Network device lifecycle management
5. Cost to scale
6. Ascend the learning curve
7. Compliance impact



Next Steps



Softchoice: VMWare Status



Softchoice: Datacenter Techchecks

LICENSING

VMware Licensing TechCheck (IBR)



COMPUTE

VMware vSphere Optimization Assessment (VOA)



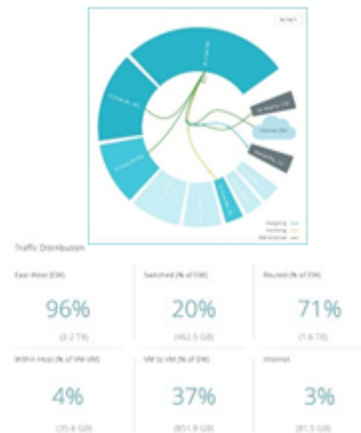
STORAGE

VMware Storage Assessment



NETWORKING

VMware Networking Assessment



Softchoice: Professional Services



Software-Defined Discovery Workshop

Setting a Software-Defined Strategy

Virtualization allows organizations to offers immediate increase in service, relies on physical rule-based routing application delivery. Private, public a network requiring higher automation. Leaders see promise in extending the time and resources to effectively av

The Software-Defined Discovery (help IT leaders and teams demystify actionable next steps. Led by a Sol current business goals and software



VMWare NSX Accelerator Proof of Concept Service

Effectively evaluate Software Defined Network Security

Businesses today are routinely faced with the need to a pace with business and security requirements. Historical new initiative in evaluating security requirements on an today, the pace of business makes these ad hoc network introduces issues such as:

- **Security** - spending more time ensuring protection of real
- **Complexity and time lag** - manually manage a network's traditional deployment environment.
- **Duplication of manual network configuration** - all physical pre-configuration to support new requirements.
- **Lack of Network-as-a Service strategy** - recognizing requ readiness however lacking.



VMWare NSX Plan, Design and Implement Service

Accelerate the Implementation of Software Defined Networking

Historically, IT leaders start from scratch with each new initiative in evaluating security requirements on an application and infrastructure basis. Today, the pace of business makes these ad hoc network security considerations unfeasible and introduces issues such as:

- **Security** - spending more time ensuring protection of each application's data by frequent attacks
- **Complexity and time lag** - manually manage a network when provisioning workloads in a traditional deployment environment
- **Duplication of manual network configuration** - all physical networking attributes require pre-configuration to support new requirements
- **Lack of Network-as-a Service strategy** - recognizing evolving needs however lack foundational technology and skills to mature

The NSX Plan, Design and Implement Service provides a functioning micro-organization

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Who should be involved?

Softchoice recommends clients assemble a cross functional IT & datacenter team with a senior IT leader sponsor that provides alignment to the issues, business drivers and guides prioritization. Examples of required participants are project managers, networking, virtualization, storage and application owners.





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